GEOS1001 Theme 4: Our Human Environment (BILL)

~Population Growth and Resource Availability~

- People and environment shape each other
- Population—in the context of rise of cities in the modern world→ how have populations changed over time, how has this been affected and how does this affect the environment
- Malthusian Theory
    - Robert Malthus→ minister of religion
        - Looked at people in the fields, noticed people were having lots of kids→ thought people to have loose morals, thought growing food is hard
    - Population grows faster than agricultural production→ we need to do something about the imbalance otherwise we would drive ourselves into a crisis
        - Pressure on natural resources→ Earth processes cannot keep up
        - We are exceeding the carrying capacity→ population growing geometrically while resources growing arithmetically
        - On a graph→ crisis when graphs exceed each other after intersection
        - Crisis: famine, hunger, war, disease
    - We need to reduce the population→ The Limits to Growth
    - What he said was starting to come true→ revert back to his idea
        - India's dictatorship→ "The Emergency"
            - Forced sterilization for men and women
            - Optional but coercive in practice
        - China's one-child policy
        - Implications of Malthusian ways of thinking can lead to bad policy-making
    - BUT his prediction was false, dystopian vision was not realised, BUT still influential in 1970's→ Robert Malthus did not take into account technology and agriculture
    - FLAWS: assumed increasing population growth rates, did not take into account the development of technology and applications to agriculture
- Growth of the world's population
    - Population has increased rapidly BUT rate? Drivers of growth?
    - World population vs. Annual rate of growth of world population
        - World population has increased in the 20th century BUT rates of growth have slowed down
    - FLAW IN MALTHUSIAN THEORY→ he assumed high growth rates of population→ statistics show truth up to 20th century, BUT it has changed
- Demographic Transition Theory (DTT)
    - Why does any population increase, change from one time to another?
        - Deaths, births, (migration, government policy→ national levels)
        - GLOBAL: birth and death → not so much migration because does not change the amount of people, just where they are
    - Model showing changes in the relationship between net birth and net death rates over time as conditions in a country change→ as with economic processes
    - Process by which rate of population growth declines as a country gets richer
        - Links population growth to region's economic development→ technology seen as the main driver for population change

- 4 stage model→ over time, a country's population will go through 4
  - *"A four stage process of demographic change that is expected to occur as regions develop and modernise"*
- Stage 1 (Preindustrial, very slow population growth)
  - Low rate of economic development→ higher death and birth rates
  - High death rates→ low quality health care and maternal health systems and facilities, more infectious diseases
  - High birth rates→ early marriage, cultural norms, gender issues (birth rates are greater with gender inequities)
  - Slow population growth because deaths cancel out births
- Stage 2 (Early industrial, rapid population growth)
  - Transformative stage→ birth rates stay high but death rates fall
  - Fall in death rates→ countries become wealthier, better health care
  - High birth rates→ cultural norms persist
- Stage 3 (Mature industrial, slowing population growth)
  - Natural equalizer effect—as people get richer, birth rates fall
  - Fall in birth rates→ cultural norms catch up to modern times, children become economic liabilities
  - Fall in birth rates narrows the gap between birth and death rates
- Stage 4 (Post-industrial, very slow population growth)
  - Societies are wealthier and advanced
  - Low birth and death rates
  - Population more driven by migration than birth and death
- CONTEXT
  - During the war→ lower birth rates, time of uncertainty, men were at war and it was harder to raise a family
  - China→ cultural revolution brought huge increase in births then the one child policy led to huge decrease in births
  - Britain→ demonstrates the DTT the neatest
  - Malaysia→ population still increasing, but at a slower rate
- CRITIQUE
  - Generalized model→ does not completely adhere to the real world
  - Can help to understand global population, but incomplete
  - Assumes countries get richer→ some countries are still developing
  - Excludes cultural and religious norms of births and marriage
  - Excludes the role of science→ even in poor nations, health systems have improved→ low infant mortality rates